## ACCEPTED MANUSCRIPT

## Ligninolytic activity patterns of *Pleurotus ostreatus* obtained by submerged fermentation in presence of 2-6, dimethoxyphenol and Remazol brilliant blue R dye

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## Abstract

The degradation of 2-6, dimethoxyphenol (DMP) and decolorization of Remazol brilliant blue R dye (RBB), added to culture media of *Pleurotus ostreatus* developed in submerged fermentation and the laccase, manganese peroxidase and veratryl alcohol oxidase activities produced in these systems were evaluated. Both compounds were removed from the culture medium mainly by enzymatic action. These compounds decreased the specific growth rate and the effect on the maximal biomass values was not important. The enzymatic activities were increased by DMP and/or RBB, however, the DMP showed higher inducer effect on all enzymes than RBB. On the other hand, the RBB showed major inducer effect on manganese peroxidase activity than on the laccases and veratryl alcohol oxidase activities. These results show that DMP was better inducer of ligninolytic enzymes than dye, and the process of dye decolorization and degradation of DMP requires the action of all enzymes of the ligninolytic complex.

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